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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/857,490	10/01/2001	Federick H. Rumpf	97116CIP-36	5371

7590

03/30/2006

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EXAMINER
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HENDRICKSON, STUART L

ART UNIT	PAPER NUMBER
1754	

DATE MAILED: 03/30/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/857,490

Applicant(s)

RUMPF ET AL.

Examiner

Stuart Hendrickson

Art Unit

1754

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 06 January 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 2-18 is/are pending in the application.
- 4a) Of the above claim(s) 9-14 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2-8, 15-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_

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The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action. The request filed on 8/2/04 for Continued examination (RCE) is acceptable and has been established.

Claims 2 and 15-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rothbuhr et al. 4636375.

Rothbuhr teaches in column 8 treating carbon black off-gas to remove water and carbon, then recycling it. While not explicitly teaching heating before recycling, this is suggested in column 9 and thus obvious to increase the carbon yield, and/or efficiency of combustion. The fuel rich mode is suggested as an option in col. 1 and 2. Note that col. 9 line 60-63 shows two examples. The 880 degree example shows less combustion and thus meets the claims, as less product is formed. The teaches of mixing chamber in ex. 1 indicates claim 17 is met.

Claims 3 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rothbuhr as applied to claims 2 and 15-18 above, and further taken with Sircar and Doshi respectively.

Rothbuhr teaches water removal but it does not specify PSA. However, Sircar teaches in col. 5 line 55 using PSA to dewater a gas. Thus using it in the process of Rothbuhr an obvious expedient to perform the water removal. Concerning claim 8, Rothbuhr does not identify the source of oxygen, however Doshi teaches in column 11 line 5 that it can separate oxygen by PSA. Thus, using oxygen from any source, such as PSA, is an obvious expedient to create the oxygen used by Rothbuhr.

Claims 4-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rothbuhr as applied to claims 2 and 15-18 above, and further in view of Lynum 5527518.

Rothbuhr, supra, does not explicitly teach reheating the recycled gas using plasma heating. However Lynum in column 5 teaches this technique to make carbon black. Plasma preheating the gases of Rothbuhr is thus an obvious expedient to assure efficient combustion and restore heat lost during the water-removal steps.

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Applicant's arguments filed 1/6/06 have been fully considered but they are not persuasive. Rothbuhr teaches a shortage of oxygen and thus suggests, at the very least, a fuel rich process. Rothbuhr clearly teaches the problems of having too much oxygen; in order to avoid the problem of having oxygen react with the feedstock, an oxygen deficiency in the flame is an obvious and seemingly necessary condition. Concerning the figures of 27 and 1.9, it is noted that the recycle gas may push the system to fuel rich, depending upon the exact composition thereof. Given what the reference teaches, this is at very least an obvious expedient.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication should be directed to examiner Hendrickson at telephone number (571) 272-1351.



Stuart Hendrickson  
examiner Art Unit 1754